

**METHOD FOR FABRICATING STRAINED SILICON-ON-INSULATOR
STRUCTURES AND STRAINED SILICON-ON-INSULATOR STRUCTURES
FORMED THEREBY**

Abstract of the Disclosure

5 A silicon-on-insulator (SOI) device and structure having locally strained regions in the silicon active layer formed by increasing the thickness of underlying regions of a buried insulating layer separating the silicon active layer from the substrate. The stress transferred from the underlying thickened regions of the insulating layer to the overlying strained regions increases carrier mobility in these confined regions of the active layer. Devices formed in and on the silicon active layer may benefit from the increased carrier mobility in the spaced-apart strained regions.